

Supplementary Material

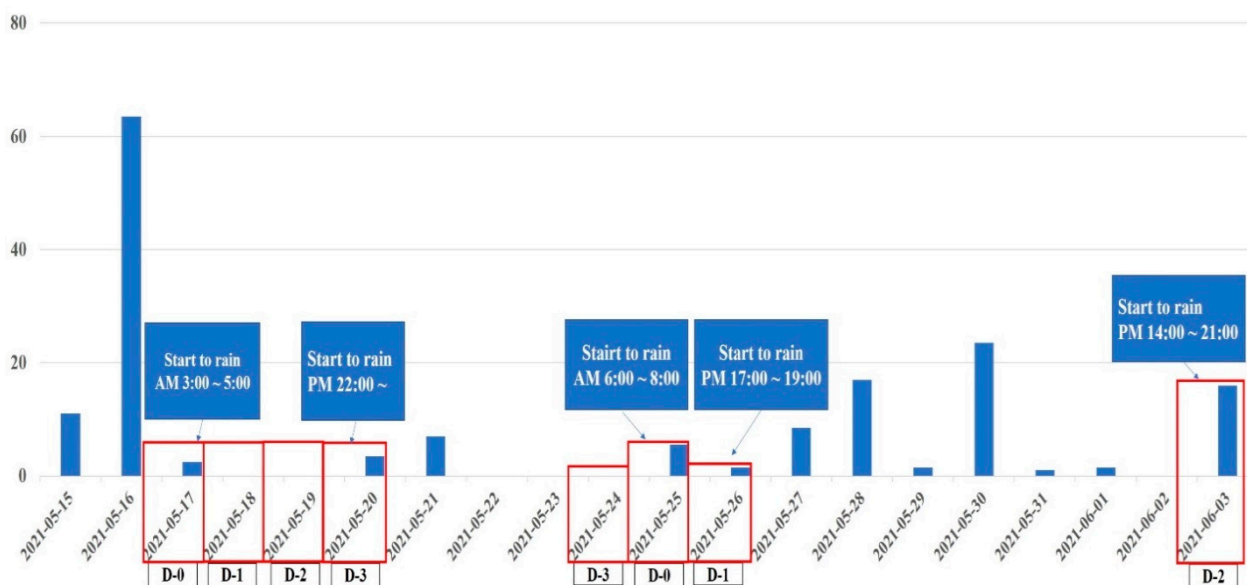


Figure S1. Sampling date and daily precipitation.

We started the experiment on 2021.05.17. and when sampling was performed, the situation was recorded.

2021.05.17 (D-0): It rained from 3:00 to 5:00. At 14:35 when sampling was carried out, the road was dry.

2021.05.18 (D-1): It didn't rain and nothing significant.

2021.05.19 (D-2): It didn't rain and nothing significant.

2021.05.20 (D-3): Road dust was sampled at 14:00, and rainfall occurred after sampling.

2021.05.22~23: Sampling was not carried out because a rainfall event was predicted.

2021.05.24 (D-3): After 2021.05.21., drying period is 3 days (2021.05.21. (D-0), 2021.05.22. (D-1), 2021.05.23. (D-2)).

2021.05.25 (D-0): It rained from 6:00 to 8:00. At 14:00 when sampling was carried out, the road was dry

2021.05.26 (D-1): Rainfall occurred after sampling.

2021.06.03 (D-2): Rainfall occurred after sampling.

Since the field test was conducted, it was difficult to keep the number of drying period in succession.

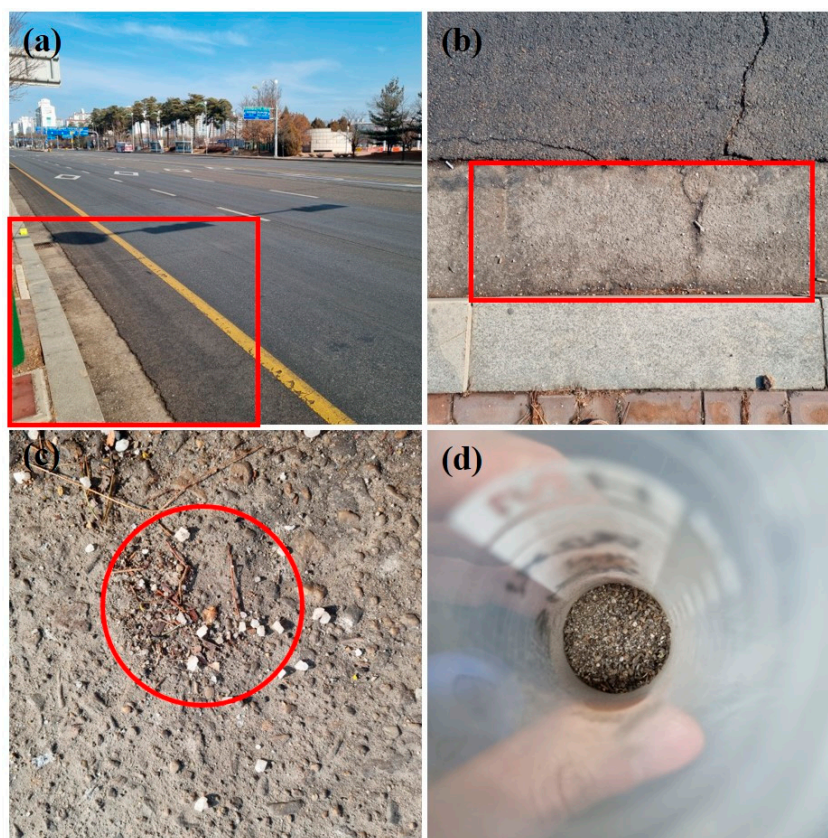


Figure S2. Sampling (a) site, (b) point, (c) road dust sample, (d) sampled road dust.

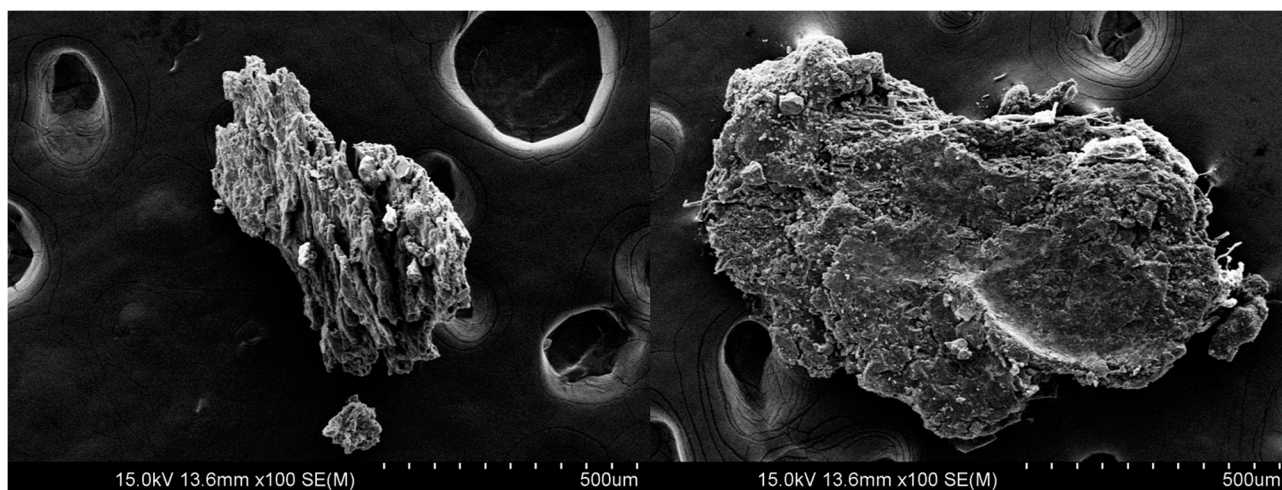


Figure S3. SEM image of black particles (x 100).

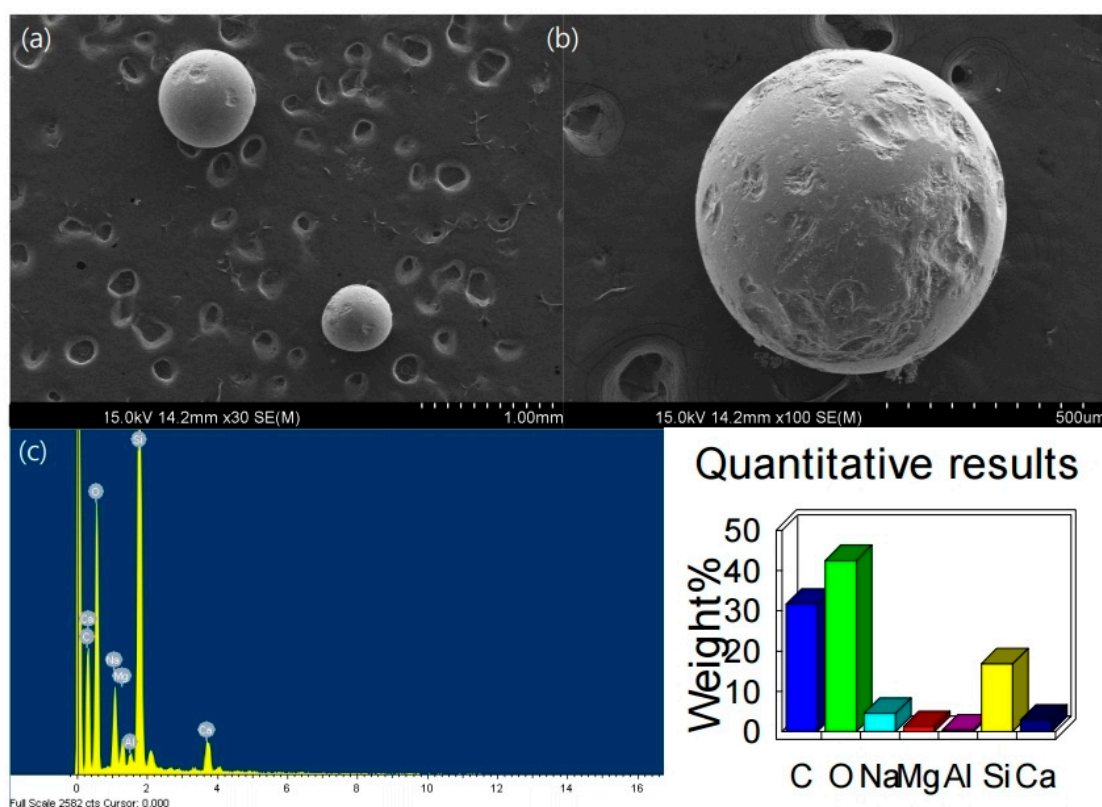


Figure S4. SEM image of glass beads (a) x 30, (b) 100 and (c) SEM-EDX analysis.

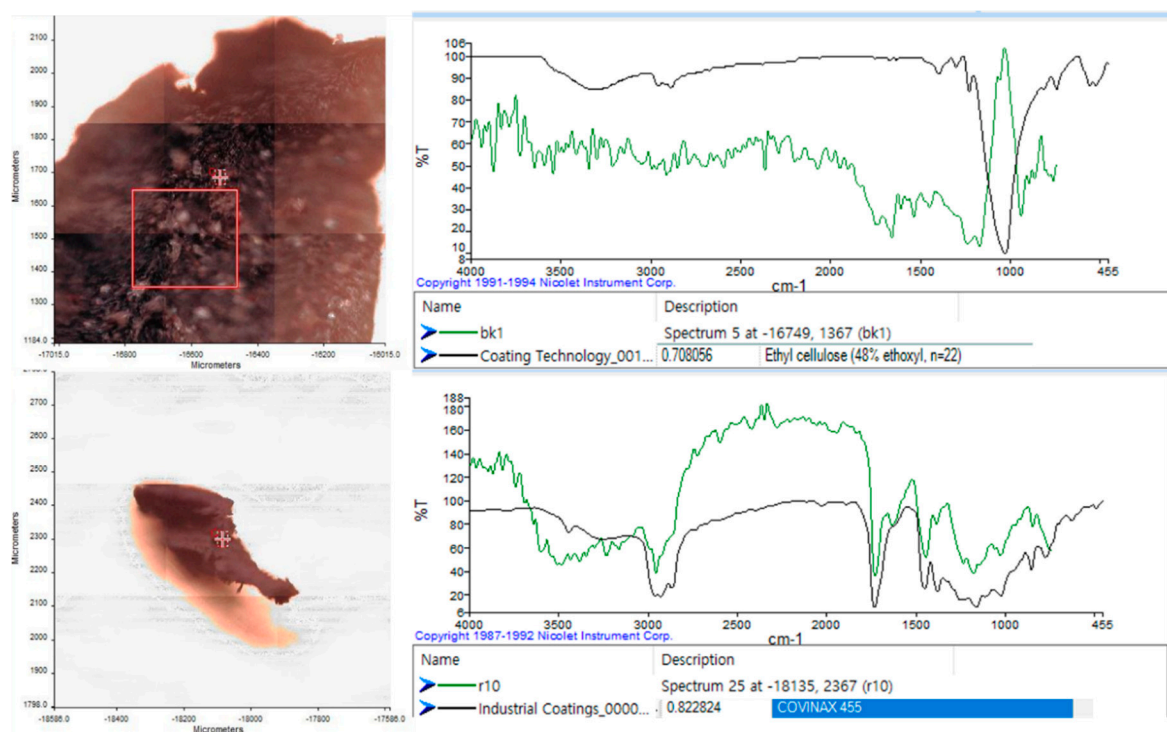


Figure S5. Coating material FT-IR analysis (Ethyl cellulose (matching score: 0.708), COVINAX (matching score: 0.822)).

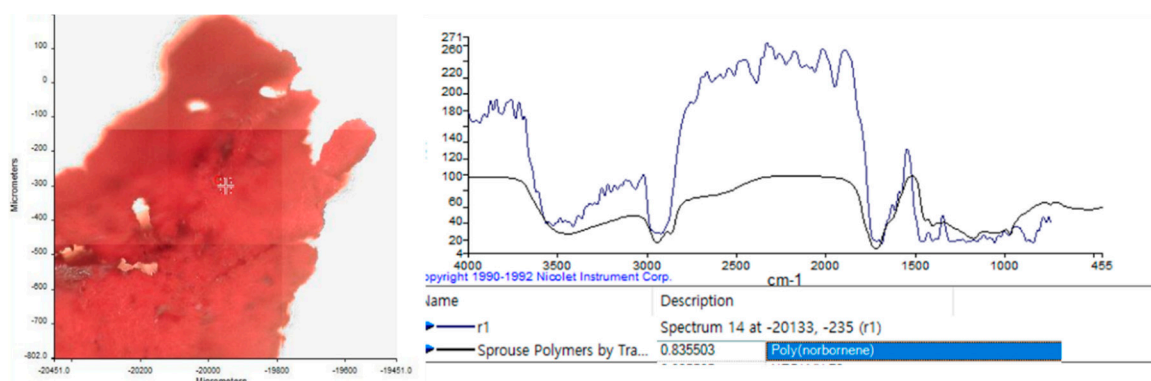


Figure S6. Rubber for anti-impact and vibration FT-IR analysis (Poly(norbornene) (matching score: 0.835)).

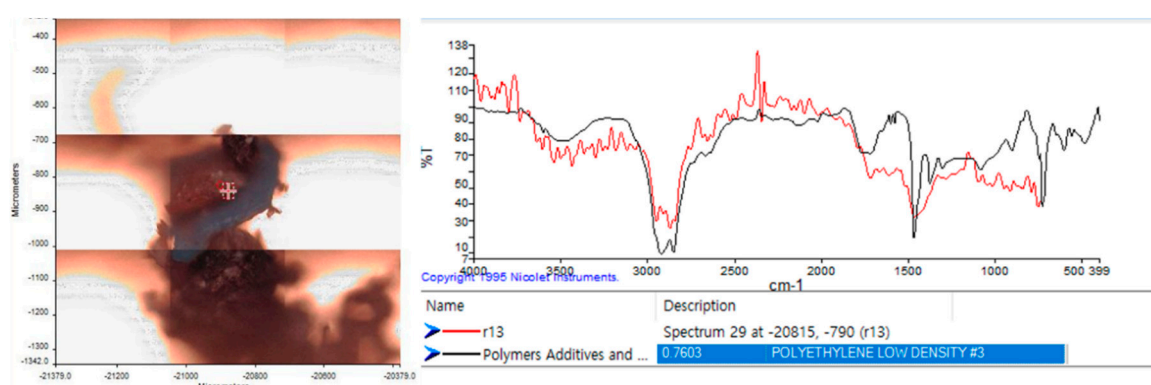


Figure S7. Polyethylene FT-IR analysis (Polyethylene (low density)) (matching score: 0.760)).

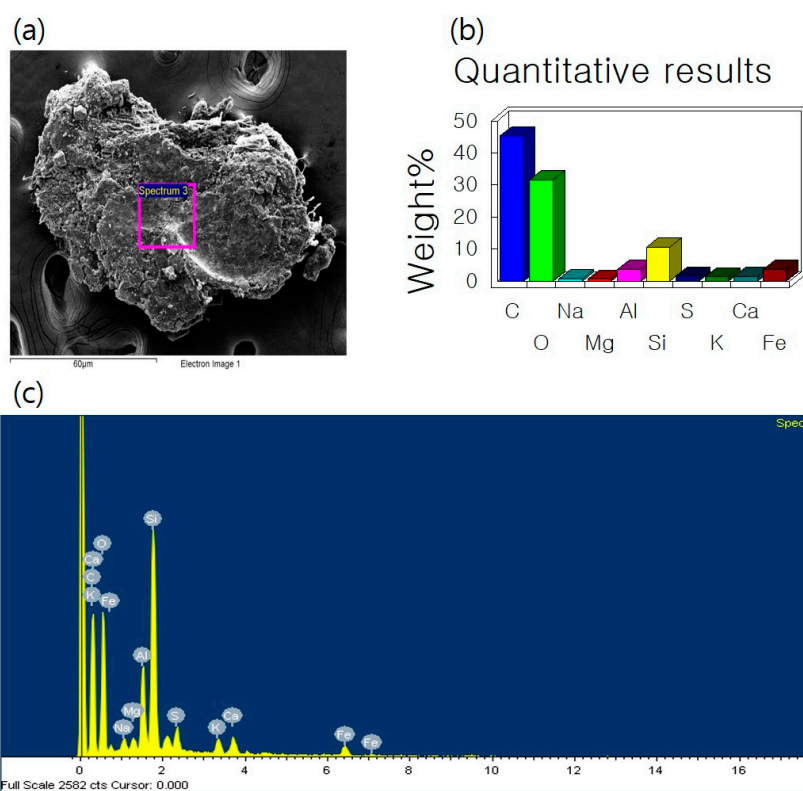


Figure S8. SEM-EDX analysis of tire from road dust.

Table S1. Tire chemical component [1].

<i>Component</i>	<i>Mass%</i>
<i>Nature rubber: polyisoprene(C₅H₈)</i>	<i>40 ~ 50</i>
<i>Filler: Carbon black (C), silica(SiO₂), chalk(CaCO₃)</i>	<i>30 ~ 35</i>
<i>Softener: (oil and resin)</i>	<i>15</i>
<i>Vulcanization agents: Sulfur(S), Zinc oxidation(ZnO)</i>	<i>2 ~ 5</i>
<i>Additives</i>	<i>5 ~ 10</i>

Reference

1. Sommer, F.; Dietze, V.; Baum, A.; Sauer, J.; Gilge, S.; Maschowski, C.; Gieré, R. Tire abrasion as a major source of microplastics in the environment. *Aerosol Air Qual. Res.* **2018**, *18*, 2014–2028.